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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,132	03/08/2005	Gilles Poussin	4590-379	9441

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EXAMINER	
LENNOX, NATALIE	
ART UNIT	PAPER NUMBER
2626	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,132	POUSSIN, GILLES	
	Examiner	Art Unit	
	Natalie Lennox	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/08/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

2. The information disclosure statement filed March 8, 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 7-9, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US Patent 6,141,661) in view of Breton (US 2002/0035471) and Cheng et al. (US 2003/0009341).

As per claim 1, Brown et al. teach a method of voice recognition of a speech signal uttered by a speaker with automatic correction, comprising steps of:

recognizing patterns so as to search, on the basis of a syntax formed of a set of phrases which represent the set of possible paths between a set of words prerecorded during a prior phase, for a phrase of said syntax that is the closest to said signal in its compressed form (Col. 3, lines 49-65, wherein the identifiers, such as "AE439J," are to be spoken by the user as a phrase);

generating a new syntax in which the path corresponding to said phrase determined during the earlier recognition step is precluded (Col. 4, lines 23-33),

repeating the step of recognizing patterns so as to search, on the basis of the new syntax, for another phrase that is the closest to said stored signal (Col. 4, lines 29-33).

However, Brown does not specifically mention

processing said speech signal and delivering a signal in a compressed form; and

storing the signal in its compressed form.

Conversely, Breton teaches

processing said speech signal and delivering a signal in a compressed form (Paragraph [0011] and unit 2 and module 22 from Figs. 1a and 1b).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of processing said speech signal and delivering a signal in a compressed form as taught by Breton for Brown et al.'s method because Breton compresses the spectral coefficients to take account of the behavior of the human auditory system (Paragraph [0011]).

However, neither Brown or Breton specifically mention

storing the signal in its compressed form.

Conversely, Cheng et al. teach

storing the signal in its compressed form (Paragraph [0056]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of storing the signal in its compressed form as taught by Cheng et al. for Brown et al.'s method, as modified by Breton, in order for the DSP unit to have access to the compressed signal for it to be able to identify or recognize audible requests, as well as generate and transmit visual or audible responses or instructions (Paragraph [0055]).

As per claim 2, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 1, in which the new syntax is obtained by reorganizing the earlier syntax in such a way as to

particularize said path corresponding to the phrase determined during the earlier recognition step, then eliminating this path (Brown's Col. 4, lines 23-33).

As per claim 3, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 2, in which said reorganization is effected by traversing the earlier syntax as a function of the words of said phrase and formation in the course of this traversal of the path specific to said phrase (Brown's Col. 4, lines 23-33).

As per claims 7, 13, and 14, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claims 1, 2, and 3, respectively, wherein the processing step comprises:

digitizing and chopping into a string of time frames of said acoustic signal (Breton's Paragraph [0021]),

a phase of parameterization of time frames containing the speech so as to obtain, per frame, a vector of parameters in the frequency domain, the whole set of these parameter vectors forming said signal in its compressed form (Breton's Paragraph [0022]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of digitizing and chopping into a string of time frames of said acoustic signal, a phase of parameterization of time frames containing the speech so as to obtain, per frame, a vector of parameters in the frequency domain, the whole set of these parameter vectors

forming said signal in its compressed form as taught by Breton for Brown et al.'s method, as modified above, because Breton's method has the goal of achieving a real-time parametrization and shape recognition in noise conditions after a transition has been identified in the ambient noise so as to make the voice recognition as robust as possible in the presence of strong noise and as sensitive as possible when noise is inexistent or almost inexistent (Paragraph [0019]).

As per claim 8, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 7, wherein the pattern recognition calls upon an algorithm of DTW type (Breton's Paragraph [0102]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the pattern recognition calls upon an algorithm of DTW type as taught by Breton for Brown et al.'s method, as modified above, because Breton's uses a DTW type algorithm during a shape-recognition phase in order to compare a series of vectors of parameters coming form the parametrization, corresponding to the acoustic fingerprint of an analyzed command to be recognized with respect to a series of vectors of basic parameters obtained during the learning phase, this series corresponding to the acoustic fingerprint of a basic command (Paragraphs [0101], [0102], and [0013]).

As per claim 9, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 7, wherein the pattern recognition calls upon an algorithm of HMM type (Breton's Paragraph [0013]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the pattern recognition calls upon an algorithm of HMM type as taught by Breton for Brown et al.'s method, as modified above, because Breton's uses an HMM type algorithm during a shape-recognition phase in order to compare a series of vectors of parameters coming form the parametrization, corresponding to the acoustic fingerprint of an analyzed command to be recognized with respect to a series of vectors of basic parameters obtained during the learning phase, this series corresponding to the acoustic fingerprint of a basic command (Paragraphs [0101], [0102], [0012] and [0013]).

5. Claims 4-6, 10-12, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US Patent 6,141,661) in view of Breton (US 2002/0035471) and Cheng et al. (US 2003/0009341), as applied to claims 1, 2, and 3 above, and further in view of Stevens et al. (US 2002/0138265).

As per claim 4, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 1, but they do not specifically mention wherein the search for a new phrase is repeated systematically to anticipate the correction.

However, Stevens et al. teach

the search for a new phrase is repeated systematically to anticipate the correction (Paragraph [0060]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the search for a new phrase is repeated systematically to anticipate the correction as taught by Stevens et al. for Brown et al.'s method, as modified above, because by displaying a list of choices for each recognition, permits a user to correct a misrecognition by selecting from the list (Paragraph [0008]).

As per claim 5, Brown et al., as modified by Breton, Cheng et al., and Stevens et al., teach the method of voice recognition as claimed in claim 4, wherein each new phrase recognized is proposed to the speaker on the request thereof (Brown's Col. 4, lines 16-20).

As per claim 6, Brown et al., as modified by Breton, Cheng et al., and Stevens et al., teach the method of voice recognition as claimed in claim 4, wherein the search for a new phrase is halted by validation of a phrase recognized by the speaker (Brown's Col. 4, lines 33-36).

As per claim 10, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 2, but they do not specifically mention wherein the search for a new phrase is repeated systematically to anticipate the correction.

However, Stevens et al. teach

the search for a new phrase is repeated systematically to anticipate the correction (Paragraph [0060]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the search for a new phrase is repeated systematically to anticipate the correction as taught by Stevens et al. for Brown et al.'s method, as modified above, because by displaying a list of choices for each recognition, permits a user to correct a misrecognition by selecting from the list (Paragraph [0008]).

As per claim 11, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 3, but they do not specifically mention wherein the search for a new phrase is repeated systematically to anticipate the correction.

However, Stevens et al. teach

the search for a new phrase is repeated systematically to anticipate the correction (Paragraph [0060]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the search for a new phrase is repeated systematically to anticipate the correction as taught by Stevens et al. for Brown et al.'s method, as modified above, because by displaying a list of choices for each recognition, permits a user to correct a misrecognition by selecting from the list (Paragraph [0008]).

As per claim 12, Brown et al., as modified by Breton, Cheng et al., and Stevens et al., teach the method of voice recognition as claimed in claim 5, wherein the search for a new phrase is halted by validation of a phrase recognized by the speaker (Brown's Col. 4, lines 33-36).

As per claims 15 and 16, Brown et al., as modified by Breton, Cheng et al., and Stevens et al., teach the method of voice recognition as claimed in claims 4 and 5, respectively, wherein the processing step comprises:

digitizing and chopping into a string of time frames of said acoustic signal (Breton's Paragraph [0021]),

a phase of parameterization of time frames containing the speech so as to obtain, per frame, a vector of parameters in the frequency domain, the whole set of these parameter vectors forming said signal in its compressed form (Breton's Paragraph [0022]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of digitizing and chopping into a string of time frames of said acoustic signal, a phase of parameterization of time frames containing the speech so as to obtain, per frame, a vector of parameters in the frequency domain, the whole set of these parameter vectors forming said signal in its compressed form as taught by Breton for Brown et al.'s method, as modified above, because Breton's method has the goal of achieving a real-time parametrization and shape recognition in noise conditions after a transition has been identified in the ambient noise so as to make the voice

recognition as robust as possible in the presence of strong noise and as sensitive as possible when noise is inexistent or almost inexistent (Paragraph [0019]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie Lennox whose telephone number is (571) 270-1649. The examiner can normally be reached on Monday to Friday 9:30 am - 7 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NL 01/10/2008

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER